

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A computer aided diagnostic system, comprising:

a sick portion detecting device configured to detect a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon a simple X-ray image acquired by a first modality, and extracting the lung cancer candidate in the lung field; and  
a correspondence displaying device configured to relate the position of the detected ~~sick-portion~~ lung cancer candidate to an X-ray CT image of a plurality of X-ray CT images acquired by a second modality different from the first modality, and to display the X-ray CT image having an axial face corresponding to a position of a selected mark that corresponds to the position of the ~~sick-portion~~ lung cancer candidate displayed on the simple X-ray image.

2. (Currently Amended) A computer aided diagnostic system, comprising:

a first sick portion detecting device configured to detect a first lung cancer candidate as a first sick portion candidate by automatically extracting a first lung field based upon a simple X-ray image acquired by a first modality, and extracting the first lung cancer candidate in the first lung field;

a second sick portion detecting device configured to detect a second lung cancer candidate as a second sick portion candidate by automatically extracting a second lung field based upon an X-ray CT image related to the same region of interest of the same subject acquired by a second modality different from the first modality, and extracting the second lung cancer candidate in the second lung field; and

a detection result synthesizing device configured to compare the results of detection by the first and second sick portion detecting devices,

wherein the detection result synthesizing device compares positions of marks respectively selected based upon the first and second ~~sick portion~~ lung cancer candidates respectively displayed on the simple X-ray image and on the X-ray CT image having an axial face.

3. (Currently Amended) A computer aided diagnostic system according to Claim 2, comprising:

a correspondence displaying device configured to relate the position of a ~~sick portion~~ the first lung cancer candidate detected by the first sick portion detecting device on an image analyzed by the second sick portion detecting device and to display it, at the same time, to relate the position of a ~~sick portion~~ the second lung cancer candidate detected by the second sick portion detecting device on an image analyzed by the first sick portion detecting device and to display it.

4. (Currently Amended) A computer aided diagnostic system according to Claim 2, comprising:

a correspondence displaying device configured to display the following portion so that the portion can be identified in case the detection result synthesizing device judges that there is the portion detected as a ~~sick portion~~ lung cancer candidate by only either of the first or second sick portion detecting device.

5-6. (Canceled)

7. (Currently Amended) A computer aided diagnostic system, comprising:

a sick portion detecting device configured to detect a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon an X-ray CT image acquired by one modality, and extracting the lung cancer candidate in the lung field;

an image transforming device configured to transform volume image data acquired by the one modality into a digitally reconstructed radiograph using a selected viewpoint; and

a correspondence displaying device configured to relate the position of the ~~sick portion~~ lung cancer candidate detected by the sick portion detecting device to the digitally reconstructed radiograph and to display the digitally reconstructed radiograph corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the X-ray CT image having an axial face.

8. (Currently Amended) A computer aided diagnostic system, comprising:

an image transforming device configured to transform ~~[[an]]~~ volume image data acquired by one modality into a digitally reconstructed radiograph using a selected viewpoint;

a sick portion detecting device configured to detect a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon the digitally reconstructed radiograph, and extracting the lung cancer candidate in the lung field; and

a correspondence displaying device configured to relate the position of the ~~sick portion~~ lung cancer candidate detected by the sick portion detecting device to an X-ray CT image acquired by the one modality and to display the X-ray CT image having an axial face corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the digitally reconstructed radiograph.

9. (Currently Amended) A computer aided diagnostic system, comprising:

a first sick portion detecting device configured to detect a first lung cancer candidate as a first sick portion candidate by automatically extracting a first lung field based upon an X-ray CT image acquired by one modality, and extracting the first lung cancer candidate in the first lung field;

an image transforming device configured to transform volume image data acquired by the one modality into a digitally reconstructed radiograph using a selected viewpoint;

a second sick portion detecting device configured to detect a second lung cancer candidate as a second sick portion candidate by automatically extracting a second lung field based upon the digitally reconstructed radiograph, and extracting the second lung cancer candidate in the second lung field; and

a detection result synthesizing device configured to compare the results of detection by the first and second sick portion detecting devices,

wherein the detection result synthesizing device compares positions of marks respectively selected based upon the first and second ~~sick portion~~ lung cancer candidates respectively displayed on the X-ray CT image having an axial face and on the digitally reconstructed radiograph.

10. (Currently Amended) A computer aided diagnostic system according to Claim 9, comprising:

a correspondence displaying device configured to relate the position of a ~~sick portion~~ the first lung cancer candidate detected by the first sick portion detecting device on an image analyzed by the second sick portion detecting device and to display it, at the same time, to relate the position of a ~~sick portion~~ the second lung cancer candidate detected by the second

sick portion detecting device on an image analyzed by the first sick portion detecting device and to display it.

11. (Currently Amended) A computer aided diagnostic system according to Claim 9, comprising:

a correspondence displaying device configured to display the following portion so that the portion can be identified in case the detection result synthesizing device judges that there is the portion detected as a ~~sick portion~~ lung cancer candidate by only either of the first or second sick portion detecting device.

12-13. (Canceled)

14. (Currently Amended) A computer aided diagnostic system, comprising:

a sick portion detecting device configured to detect a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon plural X-ray CT images acquired by a modality, and extracting the lung cancer candidate in the lung field;

an image reconfiguring device configured to reconfigure an image based upon stereoscopic image data including the plural X-ray CT images acquired by the modality; and

a correspondence displaying device configured to relate the position of the ~~sick portion~~ lung cancer candidate detected by the sick portion detecting device to the reconfigured image and to display the reconfigured image corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the X-ray CT image having an axial face.

15. (Currently Amended) A computer aided diagnostic system, comprising:  
an image reconfiguring device configured to reconfigure an image based upon stereoscopic image data acquired by a modality which can sense plural X-ray CT images;  
a sick portion detecting device configured to detect a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon the reconfigured image, and extracting the lung cancer candidate in the lung field; and  
a correspondence displaying device configured to relate the position of the ~~sick portion~~ lung cancer candidate detected by the sick portion detecting device to the X-ray CT image acquired by the modality and to display the X-ray CT image having an axial face corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the reconfigured image.

16. (Currently Amended) A computer aided diagnostic system, comprising:  
a first sick portion detecting device configured to detect a first lung cancer candidate as a first sick portion candidate by automatically extracting a first lung field based upon plural X-ray CT images acquired by a modality, and extracting the first lung cancer candidate in the first lung field;

an image reconfiguring device configured to reconfigure an image based upon stereoscopic image data including the plural X-ray CT images acquired by the modality;

a second sick portion detecting device configured to detect a second lung cancer candidate as a second sick portion candidate by automatically extracting a second lung field based upon the reconfigured image, and extracting the second lung cancer candidate in the second lung field; and

a detection result synthesizing device configured to compare the results of detection by the first and second sick portion detecting devices,

wherein the detection result synthesizing device compares positions of marks respectively selected based upon the first and second ~~sick portion~~ lung cancer candidates respectively displayed on the X-ray CT image having an axial face and on the reconfigured image.

17. (Currently Amended) A computer aided diagnostic system according to Claim 16, comprising:

a correspondence displaying device configured to relate the position of ~~a sick portion~~ the first lung cancer candidate detected by the first sick portion detecting device on an image analyzed by the second sick portion detecting device and to display, at the same time, to relate the position of ~~a sick portion~~ the second lung cancer candidate detected by the second sick portion detecting device on an image analyzed by the first sick portion detecting device and to display it.

18. (Currently Amended) A computer aided diagnostic system according to Claim 16, comprising:

a correspondence displaying device configured to display the following portion so that the portion can be identified in case the detection result synthesizing device judges that there is the portion detected as a ~~sick portion~~ lung cancer candidate by only either of the first or second sick portion detecting device.

19. (Previously Presented) A computer aided diagnostic system according to Claim 14, wherein:

the image reconfiguring device generates a digitally reconstructed radiograph based upon the plural axial images.

20. (Previously Presented) A computer aided diagnostic system according to Claim 14, wherein:

the image reconfiguring device generates an MPR image based upon the plural axial images.

21. (Currently Amended) A computer aided diagnosing method, comprising:

detecting a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon a simple X-ray image acquired by a first modality, and extracting the lung cancer candidate in the lung field; and

relating the position of the detected ~~sick portion~~ lung cancer candidate to an X-ray CT image of a plurality of X-ray CT images acquired by a second modality different from the first modality; and

displaying the X-ray CT image having an axial face corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the simple X-ray image.

22. (Currently Amended) A computer aided diagnosing method, comprising:

detecting a first lung cancer candidate as a first sick portion candidate by automatically extracting a first lung field based upon a simple X-ray image acquired by a first modality, and extracting the first lung cancer candidate in the first lung field;

detecting a second lung cancer candidate as a second sick portion candidate by automatically extracting a second lung field based upon an X-ray CT image related to the same region of interest of the same subject acquired by a second modality different from the first modality, and extracting the second lung cancer candidate in the second lung field; and



comparing the results of detection at the first and second detecting,  
wherein positions of marks respectively selected based upon the first and second ~~sick~~  
~~portion~~ lung cancer candidates respectively displayed on the simple X-ray image and on the  
X-ray CT image having an axial face are compared.

23. (Currently Amended) A computer aided diagnosing method, comprising:  
detecting a lung cancer candidate as a sick portion candidate by automatically  
extracting a lung field based upon an X-ray CT image acquired by one modality, and  
extracting the lung cancer candidate in the lung field;  
transforming volume image data acquired by the one modality into a digitally  
reconstructed radiograph using a selected viewpoint; and  
relating the position of the ~~sick-portion~~ lung cancer candidate detected to the digitally  
reconstructed radiograph and displaying the digitally reconstructed radiograph corresponding  
to a position of a selected mark that corresponds to the position of the ~~sick-portion~~ lung  
cancer candidate displayed on the X-ray CT image having an axial face.

24. (Currently Amended) A computer aided diagnosing method, comprising:  
transforming volume image data acquired by one modality into a digitally  
reconstructed radiograph using a selected viewpoint;  
detecting a lung cancer candidate as a sick portion candidate by automatically  
extracting a lung field based upon the digitally reconstructed radiograph, and extracting the  
lung cancer candidate in the lung field; and  
relating the position of the ~~sick-portion~~ lung cancer candidate detected at the ~~sick~~  
~~portion~~ lung cancer candidate detecting to an X-ray CT image acquired by the one modality  
and displaying the X-ray CT image having an axial face corresponding to a position of a

selected mark that corresponds to a position of the ~~sick portion~~ lung cancer candidate displayed on the digitally reconstructed radiograph.

25. (Currently Amended) A computer aided diagnosing method, comprising:  
detecting a first lung cancer candidate as a first sick portion candidate by  
automatically extracting a first lung field based upon an X-ray CT image acquired by one  
modality, and extracting the first lung cancer candidate in the first lung field;  
transforming volume image data acquired by the one modality into a digitally  
reconstructed radiograph using a selected viewpoint;  
detecting a second lung cancer candidate as a second sick portion candidate by  
automatically extracting a second lung field based upon the digitally reconstructed  
radiograph, and extracting the second lung cancer candidate in the second lung field; and  
comparing the results of detection at the first and second sick portion detecting,  
wherein positions of marks respectively selected based upon the first and second ~~sick~~  
~~portion~~ lung cancer candidates respectively displayed on the X-ray CT image having an axial  
face and on the digitally reconstructed radiograph are compared.

26. (Currently Amended) A computer aided diagnosing method, comprising:  
detecting a lung cancer candidate as a sick portion candidate by automatically  
extracting a lung field based upon plural X-ray CT images acquired by a modality, and  
extracting the lung cancer candidate in the lung field;  
reconfiguring an image based upon stereoscopic image data including the plural X-ray  
CT images acquired by the modality; and  
relating the position of the ~~sick portion~~ lung cancer candidate detected at the ~~sick~~  
~~portion~~ lung cancer candidate detecting on the reconfigured image and displaying the

reconfigured image corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the X-ray CT image having an axial face.

27. (Currently Amended) A computer aided diagnosing method, comprising:  
reconfiguring an image based upon stereoscopic image data acquired by a modality which can sense plural X-ray CT images;  
detecting a lung cancer candidate as a sick portion candidate by automatically extracting a lung field based upon the reconfigured image, and extracting the lung cancer candidate in the lung field; and  
relating the position of the ~~sick portion~~ lung cancer candidate detected at the ~~sick portion~~ lung cancer candidate detecting to the X-ray CT image acquired by the modality and displaying the X-ray CT image having an axial face corresponding to a position of a selected mark that corresponds to the position of the ~~sick portion~~ lung cancer candidate displayed on the reconfigured image.

28. (Currently Amended) A computer aided diagnosing method, comprising:  
detecting a first lung cancer candidate as a first sick portion candidate by automatically extracting a first lung field based upon plural X-ray CT images acquired by a modality, and extracting the first lung cancer candidate in the first lung field;  
reconfiguring an image based upon stereoscopic image data including the plural X-ray CT images acquired by the modality;  
detecting a second lung cancer candidate as a second sick portion candidate by automatically extracting a second lung field based upon the reconfigured image, and extracting the second lung cancer candidate in the second lung field; and

comparing the results of detection at the first and second sick portion detecting,  
wherein positions of marks respectively selected based upon the first and second ~~sick portion~~ lung cancer candidates respectively displayed on the X-ray CT image having an axial face and on the reconfigured image are compared.

29. (Currently Amended) The computer aided diagnostic system according to Claim 2, further comprising:

a correspondence displaying device configured to cause a mark displayed when a ~~sick portion~~ lung cancer candidate is detected on only one image among the simple X-ray image and the X-ray CT image to be different from marks respectively displayed when the first and second ~~sick portion~~ lung cancer candidates are detected on both images.

30. (Currently Amended) The computer aided diagnostic system according to Claim 9, further comprising:

a correspondence displaying device configured to cause a mark displayed when a ~~sick portion~~ lung cancer candidate is detected on only one image among the X-ray CT image and the digitally reconstructed radiograph to be different from marks respectively displayed when the first and second ~~sick portion~~ lung cancer candidates are detected on both images.

31. (Currently Amended): The computer aided diagnostic system according to Claim 16, further comprising:

a correspondence displaying device configured to cause a mark displayed when a ~~sick portion~~ lung cancer candidate is detected on only one image among the X-ray CT image and the reconfigured image to be different from marks respectively displayed when the first and second ~~sick portion~~ lung cancer candidates are detected on both images.

32. (Currently Amended) The computer aided diagnosing method according to Claim 22, further comprising:

displaying a mark when a ~~sick-portion~~ lung cancer candidate is detected on only one image among the simple X-ray image and the X-ray CT image that is different from marks respectively displayed when the first and second ~~sick-portion~~ lung cancer candidates are detected on both images.

33. (Currently Amended) The computer aided diagnosing method according to Claim 25, further comprising:

displaying a mark when a ~~sick-portion~~ lung cancer candidate is detected on only one image among the X-ray CT image and the digitally reconstructed radiograph that is different from marks respectively displayed when the first and second ~~sick-portion~~ lung cancer candidates are detected on both images.

34. (Currently Amended) The computer aided diagnosing method according to Claim 28, further comprising:

displaying a mark when a ~~sick-portion~~ lung cancer candidate is detected on only one image among the X-ray CT image and the reconfigured image that is different from marks respectively displayed when the first and second ~~sick-portion~~ lung cancer candidates are detected on both images.